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The Influence of Social Presence on Students' Satisfaction toward Online Course

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Abstract

Students' satisfaction plays a vital role in ensuring effective online learning. This study investigated the association between social presence and students' satisfaction toward online discussions in Learning Management System (LMS) platform conducted at a private university in Malaysia. Both correlation and two-step hierarchical linear regression were performed to analyze the online survey data. The instruments used to measure the summated scores of social presence and satisfaction were Community of Inquiry (CoI) framework and satisfaction scale, respectively. The results revealed that the correlation between both variables was significantly positive. Students who declared relatively high level of satisfaction were more likely to report high level of interaction with their peers in online conversation and high level of social presence. Essentially, social presence seemed to contribute the most in predicting the level of course satisfaction amongst the students.

Keywords: social presence, course satisfaction, online learning, Community of Inquiry (CoI)

Introduction

Online learning is rising in popularity amongst adult learners who are unable to attend face-to-face courses due to geographical, career, and other circumstances. This escalating demand has garnered the attention of higher education institutions worldwide to offer a new approach of virtual teaching and learning. For instance, more than six million students in the US had enrolled in at least one online course in 2015 (Allen & Seaman, 2017). This number represents about 4% of overall course enrolment and slightly higher when compared to the enrolment figures recorded for years 2015 and 2016. Upon synthesizing plenty of research work and publications over a 10-year period on transnational distance students, Stewart (2019) found a rapid demand for online learning worldwide, including multi-mode programs of study, such as overseas/offshore branch campus, franchise, credit validation, dual degree programs, twinning, double degree with mobility, joint degrees, and consecutive degrees fully conducted via online or hybrid mode.

In light of online education across Asian countries, the demand in Korea (Yu & Richardson, 2015) and China (Feng et al., 2017) was reported to rise gradually. Similarly, Malaysia has been offering a range of online courses to meet learners' demand. This endeavor is in line with the 21st century education and parallel to the fourth industrial revolution outlined in the Malaysia Government Transformation Plan (Malaysian Ministry of Higher Education [MMOHE], 2017). Regardless of synchronous or asynchronous, fully or hybrid approach of online courses, these courses have been designed to cater to students' learning needs. The virtual environment found in online learning offers learning experience in a real lecture room or hall despite geographical circumstances, thus attracting both participation and interest of students. Despite the efficacy of an online learning portal, a significant drawback has been linked with the tendency of isolation and course drop-out if the students deny active learning engagement.

This issue had been pointed out by many researchers while discussing several vital aspects that demand attention to assure the attainment of learning objectives outlined for an online course or program, apart from ensuring high-level satisfaction amidst students. Meanwhile, a number of studies reported on the efficacy of online courses or programs with doubtful issues lurking. A list of issues, including withdrawal, loneliness, boredom, and dissatisfaction, has been identified to affect the quality of online courses (Bowers & Kumar, 2015; Tirrell & Quick, 2012). Social interaction among students, which has been identified as social presence (Garrison et al., 1999; Moore, 1989; Rovai & Downey, 2010; Spiro, 2011), is an essential element that sustains the efficacy of virtual learning approach. Social presence reflects one's ability to interact with others virtually (Garrison et al., 1999; Moore, 1989). It serves as a predictor and has been linked with course satisfaction (Baharudin et al., 2018; Hostetter & Busch, 2006; Shin & Kang, 2015). Short et al. (1976) asserted that the theory of social presence upholds the significant correlation between learning and its effects on technology. Other studies (see Alman et al., 2012; Garrison et al., 1999; Moore, 1989; Taghizadeh & Vaezi, 2011) reported that peer participation in a virtual learning environment has a crucial role in ensuring that the virtual activities can occur within student-student communication. A substantial challenge in synchronous interaction is that feeling, perception, and reaction cannot be excluded from the conversation (Tu & McIsaac, 2002) either in live lecture or in presentation (Çakiroğlu, 2019), in comparison to asynchronous discussion where students can engage with each other at any time and at their own pace.

Çakiroğlu (2019) discovered that social interaction, comfort, view acknowledgement, and sense of collaboration among 47 students during live discussion were below satisfactory level. The outcome denoted that maintaining engagement among students was a challenge in live discussion session. Besides, social presence was not significantly related to academic achievement, which is in disagreement with that reported by Kara et al. (2019). This insignificance portrayed that the engagement of students in learning did not affect their grade unless marks were allocated for the effort of students in communicating via learning portal. In other words, this is an alternative to encourage students' engagement by making it compulsory in the course requirement for them to log in and actively engage in the virtual learning environment. Other researchers highlighted that social presence may be triggered through asynchronous communication, such as via text, recorded video, and note (Garrison et al., 1999; 2010b), which dismisses ultra-speed Internet connection, audio, and video. Students can simply download or view the learning material at their convenience, as not all could afford a live web conferencing due to mobile data and bandwidth limitations.

Turning to this study, social presence was adopted from the definition stipulated in the Community of Inquiry (CoI) framework coined by Garrison et al. (2010a). The framework is comprised of affective expression, open communication, and group cohesion that are likely to occur in online discussion within the Learning Management System (LMS) platform. Social presence may be influenced by demographic characteristics differences, course content and technology, instructional strategies, as well as students' personalities and learning styles (Cobb, 2011; Hostetter & Busch, 2006; Spears, 2012). Another crucial aspect that demands exploration is students' satisfaction towards the online courses that they enrolled. Satisfaction has a significant impact on social presence, besides functioning as a key component in sustaining the quality of online course (Howell & Buck, 2012; Swan, 2001). For instance, poor feedback from instructors and peers, as well as the feeling of uneasiness and discomfort in communicating in an unknown virtual group members, could lead to dissatisfaction towards the course (Richardson et al., 2012; Swan et al., 2008).

Apart from social presence, another integral variable is age (Alman et al., 2012; Bulu, 2012; Croxton, 2014) that was investigated in a constant comparative analysis that involved 36 articles

published based on the themes of open and distance education, instructional technology, and adult education. The analysis revealed a range of factors, including age, gender, knowledge, and skills, which highly influenced the success of online learning. Courses enrolled and completed (Cobb, 2011; Hostetter & Busch, 2013; Spears, 2012) also contributed to the level of satisfaction towards online course. As outlined by Kara et al. (2019), the three internal challenges faced by adult learners in online learning are management, learning, and technical. Meanwhile, the two external challenges of job-related and domestic had an impact on the satisfaction level towards online learning. Despite the rapid increase of online courses in Korea, Choi and Kim (2018) found that a large number of drop-out of online courses at Cyber-University Degree Programs was due to scholastic aptitude, unclear learning objectives, physical constraints, lack of cognitive presence, lack of teaching presence, dissatisfaction, and issues in academic achievement. This is corroborated by De Paepe et al. (2018), as they reported that high cases of drop-out stemmed from ineffective interaction, mainly because interaction is a key element in predicting students' satisfaction. This concern had gained attention from instructional designers, policy makers, and educators.

Since only a handful of studies have probed into this area especially on the connection between social presence and several demographic variables, more studies are required to explore this field (Khalid & Quick, 2016). As such, this study assessed the issues of demographic and social presence in light of students' satisfaction level towards online course. This purpose is in line with the aims stipulated in the Malaysia Critical Agenda Project, the National e-Learning Policy, the Malaysia Government Transformation Plan (MMOHE, 2017), and the demands of 21st century education in the era of fourth industrial revolution where education is a non-stop process and should be more open. Additionally, this study provides guidance for online instructors and learners to improve the quality of online interaction and to establish more engagement, so as to gradually reduce the rate of drop-outs among online learners (Bowers & Kumar, 2015).

Method

The total sampling frame of this study was 3000 online students from a private university in Malaysia. They were selected quantitatively from 50 learning centers nationwide and currently enrolled in online courses in a semester. An online cross-sectional survey was administered using convenient sampling. Data were collected within the duration of three to four weeks through Qualtric web survey service provider. In order to guide, interpret, and analyze the retrieved data, the CoI survey was adopted to measure social presence with nine items using social presence sub-scales, namely affective expression, open communication, and group cohesion. The social presence construct has been verified as a reliable and validated measure (Garrison et al., 2010a, 2010b; Yu & Richardson, 2015; Zimmerman & Nimon, 2017) and used for more than a decade to measure presence.

Next, the construct of course satisfaction was embedded in the survey with five items established on six-point scale. The validity and reliability of this survey has been approved by many researchers in the field (Lee et al., 2011) as it measures several aspects of course satisfaction, such as goal, content, recommendation, discussion, and overall satisfaction. The online survey link was emailed to all selected sample in this study by a gatekeeper with three reminders via email. The raw data gathered in the Microsoft Excel format was exported to SPSS software in order to perform inferential statistics. The research questions were answered by performing correlation and two-step hierarchical linear regression after addressing missing information, outliers, equality of variances, and normality of data.

Results

Out of the 3000 Qualtric links sent to the respondents via email, only 73 had completed the link; indicating 2.4% response rate. According to Ho et al. (2013) and Nulty (2008), the 2.4% response rate falls within the acceptable range of online survey even though the literature depicts that it is difficult to capture high response rate, when compared to traditional survey. Nulty (2008) asserted that the required response rate for the sample size of this study is 750-2000, with 1-3% response rate being adequate. Theoretically, if the sample size is 2000 or more, the response rate should be less. This justifies the accepted response rate for online survey, as opposed to conventional and paper surveys. Although the response rate for this study is low, it is sufficient and accepted for data analysis.

The descriptive results revealed that 62% of the respondents were female. More than 90% of the respondents were part-time students and enrolled in the hybrid mode of study. Nearly 54% of the respondents were 22-35 years old. Meanwhile, 46.5% of the respondents had experienced online learning prior to enrolling the current course and almost 70.0% claimed that the course was compulsory for their major. The Cronbach's Alpha (α) values for social presence and course satisfaction are .86 (mean=3.73) and .94 (mean=4.63), respectively. The reliability for social presence sub-scales is as follows: affective expression is .62 (mean=3.70), open communication is .82 (mean=3.78), and group cohesion was .79 (mean=3.72).

The assumptions of linearity and normality were fulfilled. Social presence was significantly correlated with course satisfaction, $r(71) = 0.64$, $p < 0.001$. These constructs displayed a strong and positive correlation with large effect size (Cohen, 1988), and followed by age that was also significantly correlated with course satisfaction, $r(71) = 0.31$, $p < 0.001$. Age portrayed the weakest positive correlation with medium effect size (Cohen, 1988). Nevertheless, the number of completed online courses did not display any statistical correlation with course satisfaction.

Two-step hierarchical linear regression was performed to examine if social presence predicted course satisfaction. Both leverage statistics and Cook's distance revealed that several respondents could possibly be outliers. Based on closer analysis, the two-step hierarchical linear regression was recomputed. In the first step, only age had significantly predicted course satisfaction, $F(6, 67) = 3.35$, $p < 0.024$. However, $R^2 = 0.09$ ($R^2 = .13$) when age, number of prior courses taken, and number of courses completed were incorporated into the model. Nonetheless, as indicated by the adjusted R^2, only 9% of variance in course satisfaction was predicted after identifying the students' age, the number of prior courses taken, and the number of courses completed. In the second step, three variables displayed improvement on the prediction with $R^2 = 0.35$, $F(1, 66) = 44.59$, $p < 0.001$. Upon embedding social presence to the model, the number of prior courses taken by the students turned into an insignificant predictor, as tabulated in Table 1.

The entire group of variables significantly predicted course satisfaction, $F(4, 66) = 34.98$, $p < 0.001$, adjusted $R^2 = 0.66$ ($R^2 = 0.68$). This means; 66% of variance in course satisfaction was explained by the model and the remaining 34% was explained by unidentified factor(s). This appears to be a substantial effect, as depicted by (Cohen, 1988). The beta weights and the significance values presented in Table 1 indicate the variable(s) that contributed the most in predicting course satisfaction. Number of prior courses taken, number of courses completed, and age were affected marginally in the equation and were retained. Upon retaining these predictors, social presence allocated the highest beta (.60), followed by age (.24), and number of courses completed (.19), which contributed significantly to predicting course satisfaction. In sum, the hierarchical linear regression model for course satisfaction is as follows:

[Course Satisfaction = -.64 + (1.12 social presence) + (.02 age) + (.12 number of course completed) + (-.02 number of prior courses taken)]

Table 1: Summary of Hierarchical Multiple Regression Analysis

Variable	B	SE B	β	R^2	ΔR^2
Step 1				0.13	0.13
Age	0.03	0.01	0.36*		
Num. of Prior Courses	-0.02	0.03	-0.09		
Num. of Courses Completed	0.11	0.07	0.18		
Constant	3.18	0.53			
Step 2				0.48	0.35
Age	0.02	0.01	0.24*		
Num. of Prior Courses	-0.02	0.02	-0.08		
Num. of Courses Completed	0.12	0.06	0.19*		
Social Presence	1.12	0.17	0.60**		
Constant	-0.64	0.70			

Note. *$p<0.05$, **$p<0.01$

Conclusion

This study revealed a positive relationship between social presence and course satisfaction in an online course. This means; students with high level of social presence were more likely to possess a high level of course satisfaction. The result is consistent with many other studies (see Alman et al., 2012; Baharudin et al., 2018; Bulu, 2012; Cobb, 2011; Croxton, 2014; Spears, 2012). This concludes that affective expression, open communication, and group cohesion, which are embedded in the theory of social presence as investigated by Garrison et al. (1999), are significant to enhance the quality of relationship with peers in an online learning environment, besides discovering these three components in a different setting. Social presence is integral to sustain engagement and satisfaction. This finding justified that social presence in the CoI framework is strongly correlated with course satisfaction, exclusively among Malaysian online students. Thus, social presence significantly contributes to the success or failure of e-learning.

Another important finding found in this study is that age contributes to course satisfaction. Students at 22-35 years old exhibited a significant contribution factor. Knowles et al. (2015) considered this range of age as the age of adult learners, in which they are more independent, their learning styles are self-directed, and they take responsibility for their decisions. Hence, online learning instructors should reduce the pedagogical approach, but instead, concentrate more on andragogy method to accommodate to their learning styles. In other words, only uploading learning material to the LMS platform seems inadequate. Online discussion should be further enhanced with multiple techniques of questioning in the forum to ensure that the course learning objectives can be achieved

successfully. According to World (2020), eight questioning tips may be applied in online discussion to improve students' engagement. The eight questioning tips are as follows: construct with clarity, provide hints with caution, beware of falling into one's trap, vary the question bank, question based on the course type, appropriate sequence of questions, striking the right balance, and creating "deliberate distractions". Feedback from online learning instructors should be in timely manner to encourage other students to engage in the conversation. The LMS is not a bank of learning materials and the instructors should comply to the Sharable Content Object Reference Model (SCORM) standard that does not place heavy emphasis on pedagogical aspect (Rustici Software, 2016). As a result, the aforementioned issues of isolation, loneliness, boredom, dissatisfaction, and withdrawal of courses (Bowers & Kumar, 2015; Tirrell & Quick, 2012) may eventually be hindered.

Another contributing factor identified in this study refers to experience and prior knowledge of online learning environment. The number of completed courses significantly contributed to predicting course satisfaction. This means; the more online courses completed by students, the more satisfied they feel, when compared to those who just enroll in the online course for the first time. Therefore, online learning instructors should be aware of and identify both students' familiarity and comfortability toward the LMS components, apart from providing technical support. The social presence embedded in the CoI framework emerged as a vital element that could clearly affect course satisfaction among Malaysian students. Thus, social presence may serve as a yardstick for other universities in Malaysia, so as to ensure that their LMS platform is sufficiently capable in dealing with effective peer interaction regardless of the type of learning platform used - proprietary or open source. The efficacy of online pedagogy, as envisioned in the National e-Learning Policy, demands enhancement to upgrade the quality of online learning courses (MMOHE, 2017).

Social presence may be explored from other various angles, including category of courses, sample, type of LMS (proprietary, open source, customize or self-develop), and learning styles (Lacey & Lawson, 2013). The new findings offer a meaningful and insightful discovery as Malaysia is currently lacking of evidence in supporting the success of e-learning in local context (Hamat et al., 2010). Simultaneously, the findings reported in this study support a Key Result Area in the Malaysia Critical Agenda Project (MMOHE, 2017), which is to improve e-learning to be a more meaningful experience, especially across LMS platforms. Another massive challenge found in online learning refers to poor peer interaction that may be affected by cost of internet data packages, family status, type of residence, and location. These demographic factors should be weighed in by the stakeholders; the Ministry of Education, university, and students who have spent plenty of resources and money for online learning. These stakeholders should devise alternative plans to ascertain that online education can be participated equally by those dwelling in rural area and other underprivileged groups.

References

Allen, I. E., & Seaman, J. (2017). *Digital Compass Learning: Distance Education Enrollment Report 2017.* Babson survey research group. Retrieved from https://files.eric.ed.gov/fulltext/ED580868.pdf

Alman, S. W., Frey, B. A., & Tomer, C. (2012). Social and cognitive presence as factors in learning and student retention: An investigation of the cohort model in an iSchool setting. *Journal of Education for library and Information Science, 53*(4), 290–302. Retrieved from https://www.jstor.org/stable/43686922

Baharudin, H., Nasir, M. K. M., Yusoff, N. M. R. N., & Surat, S. (2018). Assessing Students' Course Satisfaction with Online Arabic Language Hybrid Course. *Advanced Science Letters*, *24*(1), 350–352. https://doi.org/10.1166/asl.2018.12005

Bowers, J., & Kumar, P. (2015). Students' perceptions of teaching and social presence: A comparative analysis of face-to-face and online learning environments. *International Journal of Web-Based Learning and Teaching Technologies*, *10*(1), 27–44. https://doi.org/10.4018/ijwltt.2015010103

Bulu, S. T. (2012). Place presence, social presence, co-presence, and satisfaction in virtual worlds. *Computers & Education*, *58*(1), 154–161. https://doi.org/10.1016/j.compedu.2011.08.024

Çakiroğlu, Ü. (2019). Community of Inquiry in Web Conferencing: Relationships between Cognitive Presence and Academic Achievements. *Open Praxis*, *11*(3), 243–260. https://doi.org/10.5944/openpraxis.11.3.968

Choi, H. J., & Kim, B. U. (2018). Factors affecting adult student dropout rates in the Korean cyber-university degree programs. *The Journal of Continuing Higher Education*, *66*(1), 1–12. https://doi.org/10.1080/07377363.2017.1400357

Cobb, S. C. (2011). Social presence, satisfaction, and perceived learning of RN-to-BSN students in web-based nursing courses. *Nursing Education Perspectives*, *32*(2), 115–119. https://doi.org/10.5480/1536-5026-32.2.115

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (2nd ed.)*. Lawrence Erlbaum Associates.

Croxton, R. A. (2014). The role of interactivity in student satisfaction and persistence in online learning. *Journal of Online Learning and Teaching*, *10*(2), 314–325. Retrieved from https://jolt.merlot.org/vol10no2/croxton_0614.pdf

De Paepe, L., Zhu, C., & DePryck, K. (2018). Drop-out, Retention, Satisfaction and Attainment of Online Learners of Dutch in Adult Education. *International Journal on E-Learning*, *17*(3), 303–323. https://www.learntechlib.org/p/174173

Feng, X., Xie, J., & Liu, Y. (2017). Using the Community of Inquiry Framework to Scaffold Online Tutoring. *The International Review of Research in Open and Distributed Learning*, *18*(2). https://doi.org/10.19173/irrodl.v18i2.2362

Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education. *The Internet and Higher Education*, *2*(2–3), 87–105. https://doi.org/10.1016/S1096-7516(00)00016-6

Garrison, D. R., Anderson, T., & Archer, W. (2010a). The first decade of the community of inquiry framework: A retrospective. *The Internet and Higher Education*, *13*(1), 5–9. https://doi.org/10.1016/j.iheduc.2009.10.003

Garrison, D. R., Cleveland-Innes, M., & Fung, T. S. (2010b). Exploring causal relationships among teaching, cognitive and social presence: Student perceptions of the community of inquiry framework. *The Internet and Higher Education*, *13*(1), 31–36. https://doi.org/10.1016/j.iheduc.2009.10.002

Hamat, A., Embi, M. A., & Sulaiman, A. H. (2010). Sistem Pengurusan e-Pembelajaran di IPT Malaysia. In M. A. Embi (Ed.), *Amalan, Keberkesanan & Cabaran Perlaksanaan e-Pembelajaran* (pp. 29–51). Jabatan Pengajian Tinggi, Kementerian Pengajian Tinggi.

Ho, R. C., Mak, K., Tao, R., Lu, Y., Day, J. R., & Pan, F. (2013). Views on the peer review system of biomedical journals: an online survey of academics from high-ranking universities. *BMC medical research methodology*, *13*(1), 1–15. https://doi.org/10.1186/1471-2288-13–74

Hostetter, C., & Busch, M. (2006). Measuring up online: The relationship between social presence and student learning satisfaction. *Journal of Scholarship of Teaching and Learning*, *6*(2), 1–12.

Hostetter, C., & Busch, M. (2013). Community matters: Social presence and learning outcomes. *Journal of the Scholarship of Teaching and Learning*, *13*(1), 77–86.

Howell, G. F., & Buck, J. M. (2012). The Adult Student and Course Satisfaction: What Matters Most? *Innovative higher education*, *37*(3), 215–226. https://doi.org/10.1007/s10755-011-9201-0

Kara, M., Erdoğdu, F., Kokoç, M., & Cagiltay, K. (2019). Challenges faced by adult learners in online distance education: A literature review. *Open Praxis*, *11*(1), 5-22. https://doi.org/10.5944/openpraxis.11.1.929

Khalid, N. M., & Quick, D. (2016). Teaching Presence Influencing Online Students' Course Satisfaction at an Institution of Higher Education. *International Education Studies*, *9*(3), 62. https://doi.org/10.5539/ies.v9n3p62

Knowles, M. S., Holton, E. F., & Swanson, R. A. (2015). *The adult learner: The definitive classic in adult education and human resource development Butterworth-Heinemann* (8 ed.). Routledge.

Lacey, S., & Lawson, R. (2013). *Multisensory imagery*. Springer Science & Business Media.

Lee, S. J., Srinivasan, S., Trail, T., Lewis, D., & Lopez, S. (2011). Examining the relationship among student perception of support, course satisfaction, and learning outcomes in online learning. *The Internet and Higher Education*, *14*(3), 158-163. https://doi.org/10.1016/j.iheduc.2011.04.001

Malaysian Ministry of Higher Education [MMOHE] (2017). *Pelan strategik interim Kementerian Pelajaran Malaysia 2011-2020*. P. N. Berhad. http://www.mohe.gov.my/transformasi/fasa2/psptn-fasa2.pdf

Moore, M. (1989). Three types of interaction. *The American Journal of Distance Education. 3*(2), 1-6. https://doi.org/10.1080/08923648909526659

Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: what can be done? *Assessment & evaluation in higher education*, *33*(3), 301-314. https://doi.org/10.1080/02602930701293231

Richardson, J. C., Arbaugh, J. B., Cleveland-Innes, M., Ice, P., Swan, K. P., & Garrison, D. R. (2012). Using the community of inquiry framework to inform effective instructional design. In *The Next Generation of Distance Education* (pp. 97-125). Springer. https://doi.org/10.1007/978-1-4614-1785-9_7

Rovai, A. P., & Downey, J. R. (2010). Why some distance education programs fail while others succeed in a global environment. *The Internet and Higher Education*, *13*(3), 141-147. https://doi.org/10.1016/j.iheduc.2009.07.001

Rustici Software (2016). *Ask us anything*. http://scorm.com/scorm-explained/

Shin, W. S., & Kang, M. (2015). The use of a mobile learning management system at an online university and its effect on learning satisfaction and achievement. *The International Review of Research in Open and Distributed Learning*, *16*(3), 110-129. https://doi.org/10.19173/irrodl.v16i3.1984

Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. Wiley.

Spears, L. R. (2012). *Social Presence, Social Interaction, Collaborative Learning, and Satisfaction in Online and Face-to-Face Courses* (Graduate Theses and Dissertations. 12976.) Iowa State University. Retrieved from https://lib.dr.iastate.edu/etd/12976

Spiro, D. (2011). *Examining instructor and student perspectives of online interaction through the community of inquiry model* (Publication Number 3492391). Nova Southeastern University.

Stewart, W. (2019). The complexity of transnational distance students: A review of the literature. *Open Praxis*, *11*(1), 23-39. https://doi.org/10.5944/openpraxis.11.1.923

Swan, K. (2001). Virtual interaction: Design factors affecting student satisfaction and perceived learning in asynchronous online courses. *Distance Education*, *22*(2), 306-331. https://doi.org/10.1080/0158791010220208

Swan, K., Shea, P., Richardson, J., Ice, P., Garrison, D. R., Cleveland-Innes, M., & Arbaugh, J. B. (2008). Validating a measurement tool of presence in online communities of inquiry. *E-mentor*, *2*(24), 1-12.

Taghizadeh, M., & Vaezi, S. (2011). Exploring social presence in virtual learning environment. *World Applied Sciences Journal*, *15*(1), 120-128.

Tirrell, T., & Quick, D. (2012). Chickering's seven principles of good practice: Student attrition in community college online courses. *Community College Journal of Research and Practice*, *36*(8), 580-590. https://doi.org/10.1080/10668920903054907

Tu, C.-H., & McIsaac, M. (2002). The relationship of social presence and interaction in online classes. *The American journal of distance education*, *16*(3), 131-150.

World, E. (2020). *How to engage Elearners through questioning Techniques.* https://yourelearning-world.com/engaging-elearners-through-questioning-techniques/

Yu, T., & Richardson, J. C. (2015). Examining reliability and validity of a Korean version of the Community of Inquiry instrument using exploratory and confirmatory factor analysis. *The Internet and Higher Education*, *25*, 45-52. https://doi.org/10.1016/j.iheduc.2014.12.004

Zimmerman, T. D., & Nimon, K. (2017). The Online Student Connectedness Survey: Evidence of Initial Construct Validity. *The International Review of Research in Open and Distributed Learning*, *18*(3), 25-46. https://doi.org/10.19173/irrodl.v18i3.2484